

## MULTIPLEXING OF DIGITAL SIGNALS AT MULTIPLE SUPPLY VOLTAGES IN AN INTEGRATED CIRCUIT

### ABSTRACT

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An integrated circuit (10) includes a multiple voltage digital multiplexer circuit (30) for multiplexing digital signals provided at different supply voltage levels. In one form, the multiplexer (30) includes an analog multiplexer (32) for receiving the digital signals, a level shifter (40) coupled to the output of the 10 analog multiplexer (32), and a supply voltage multiplexer (34) for providing one of various supply voltages used on the IC corresponding to the signals being multiplexed. A control circuit (38, 39) is used to control the input selection of the analog multiplexer (32) as well as the supply voltage multiplexer (34) for providing the correct supply voltage to the level shifter (40). This provides the 15 ability to multiplex digital signals of differing voltage levels onto a single pad on the IC (10).